UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

C-14J

August 28, 2006

Douglas E. Wambach
Burke, Warren, MacKay & Serritella, P.C.
22nd Floor
330 N. Wabash Avenue
Chicago, Illinois 60611-3607

RE: July 26, 2006 Meeting at U.S. EPA's Region V Office – Discussion Pertaining to Potential Thorium-Contaminated Soils at McClurg Court Center 333 East Ontario Street Chicago, IL 60611

Dear Mr. Wambach:

It is our understanding that you have requested this letter from Region 5 (U.S. EPA) regarding our meeting on July 26, 2006 at our office during which we discussed the potential presence of radioactive thorium beneath the sidewalks surrounding your development at in the vicinity of 333 E. Ohio Street, Chicago, Illinois. During this meeting at our office, you described a sidewalk replacement project for the sidewalks located immediately surrounding McClurg Court Center, along East Ontario Street (to the north), North McClurg Court (to the east), and East Ohio Street (to the south). U.S. EPA explained that it has documented the presence of radioactive thorium associated with the Lindsay Light Company (Lindsay) which refined thorium containing ores and manufactured gas light mantles containing thorium nitrate in the Streeterville neighborhood. Lindsay operated at three locations in Chicago's Streeterville neighborhood from approximately 1904 until 1936. Lindsay's refining and manufacturing process generated radioactive waste tailings and other waste products which apparently were used as fill in Streeterville. Also, during the meeting, U.S. EPA outlined the general procedures and requirements for identifying, managing and disposing of thorium contaminated soil if it is encountered during the sidewalk project. The Comprehensive Environmental Response, Compensation and Liability Act authorizes U.S. EPA to respond to releases of hazardous substances such as thorium and to seek reimbursement for its response costs.

The U.S. EPA presented the following information during the meeting:

- The primary risk associated with thorium (i.e., a carcinogen) and thorium-contaminated soil/fill material occurs when the thorium becomes airborne via dust or dirt during construction, which ultimately represents a potential inhalation hazard.

- The technological limitations of gamma radiation detection instruments restricts U.S. EPA's ability to identify the presence of thorium contamination buried underground. The detection equipment can detect excess gamma radiation to a depth of only 18 inches in uncapped soils. Thus, it is difficult to identify the presence of thorium-contaminated material through streets and sidewalks.
- To date, the U.S. EPA has not conducted a "walkover" survey of the sidewalks surrounding the McClurg Court Center.
- Thorium-contaminated (e.g., above the U.S. EPA cleanup level of 7.1 picoCuries per gram (pCi/g)) soils are known to exist beneath some areas of the sidewalks surrounding the "Streeter Apartment Tower Site" (i.e., south-adjoining property to McClurg Court Center).
- U.S. EPA's mobile van survey of the streets surrounding McClurg Court Center did not identify the presence of thorium "hot spots" in that area.
- The U.S. EPA has no knowledge of any thorium contamination at the McClurg Court Center or under sidewalks adjoining the property (land owned by the City of Chicago).
- The U.S. EPA considers engineered barriers such as concrete and/or asphalt-paved sidewalks, streets, and building foundation walls to provide adequate shielding of potential thorium-contaminated material, as long as there are institutional controls to ensure that these barriers remain in place and undisturbed.
- In the event that future construction and/or redevelopment activities involve the potential for human exposure to subsurface soils (i.e., the removal and/or replacement of existing building foundation walls/floors, sidewalks, or other paved exterior areas), the U.S. EPA recommends that during construction activities, appropriate radiation surveillance monitoring and/or shielding should be conducted to protect workers from potential exposure.
- Based upon U.S. EPA's experience with thorium cleanups in Streeterville since 1993, it appears likely that if thorium is discovered beneath the streets surrounding McClurg Court Center, it would be expected to be encountered within the upper 10 feet of soils.
- In general, gamma radiation levels in subsurface soils are unknown until such time as they are exposed or excavated.
- Kerr-McGee Chemical Corporation (Kerr-McGee), the company responsible for the thorium issues due to its acquisition of Lindsay, has recently transferred its environmental liability to Tronox in June 2006. U.S. EPA issued a Unilateral Administrative Order (UAO) on June 6, 1996, which identified the respondents (e.g., liable and/or responsible entities) as Kerr-McGee and the Chicago Dock & Canal Trust.
- It has been the U.S. EPA's experience that area property owners and/or their contractors typically undertake financial responsibility for construction, excavation, permitting, and radiation monitoring activities. Kerr-McGee/Tronox reportedly has assisted local property owners with transporting and disposing of thorium-contaminated materials encountered during construction projects in the Streeterville area, and typically has assumed financial responsibility for transportation and disposal.
- Generally, initial monitoring, excavation, and removal of thorium-contaminated soils are conducted in accordance with a U.S. EPA-approved work plan. The extent and frequency of U.S. EPA oversight is determined by the complexity of the work and the extent of the

radiation contractor's experience with low-level radiation identification and removal. In accordance with U.S. EPA orders and agreements with property owners and developers, U.S. EPA will, perform a "Verification Survey," which includes a gamma survey and the collection of soil samples. The Verification Survey confirms whether post excavation soil/fill material contains thorium concentrations below the U.S. EPA cleanup level.

- At a minimum, U.S. EPA expects that when parties identify thorium-contaminated soils those parties involved will remove as much radioactive material as possible in order to protect human health and the environment.
- Under CERCLA's strict, joint and several liability structure, U.S. EPA may seek reimbursement of its response costs, including oversight costs, from the property owner or from Tronox.

To summarize, there is the potential that thorium-contaminated soil/fill material may exist beneath the sidewalks and/or streets immediately surrounding the McClurg Court Center property, although to this date, the U.S. EPA has no record of elevated thorium readings in these areas.

Furthermore, it has been our experience in the past that Kerr-McGee/Tronox has assisted with the appropriate transportation and subsequent disposal of thorium-contaminated material at other nearby construction sites in the Streeterville area. Although we have no direct knowledge, we have been informed that Kerr-McGee/Tronox has assumed responsibility for said transportation and disposal. Should thorium-contaminated soils be encountered at or near McClurg Court Center during future project work involving subsurface activities, we would anticipate that Tronox would continue to provide transportation and disposal of thorium contaminated soil.

We trust this correspondence meets your needs. If you have any questions regarding this submittal, you may contact me at the U.S. EPA Region V office at (312) 886-4683 or Cathleen Martwick at (312) 886-7166.

Sincerely,

Mary L. Fulghum
Associate Regional Counsel

cc:

Cathy Martwick
Verneta Simon
Eugene Jablonowski